

WHAT IS CLAIMED IS:

1. A railway tank car having a manway formed in an upper portion of the tank car, the tank car comprising;
a manway cover coupled to the manway;

5 at least one valve coupled to the manway cover and operable to discharge fluids from the tank car;

a protective housing assembly coupled to the upper portion of the railway tank car and disposed around the manway cover and valve;

10 the protective housing assembly having a normal access cover operable to prevent unauthorized access to the manway cover and the at least one valve;

the normal access cover having a first, closed position which prevents unauthorized access to the manway
15 cover and the at least one valve;

the normal access cover having a second, open position which allows access to the manway cover and the at least one valve;

20 at least one porthole formed in a side wall of the protective housing assembly;

the porthole providing access to operate the at least one valve;

a porthole cover having a first portion which blocks access through the porthole to the valve and a second
25 position which allows access through the porthole to the valve;

the porthole cover engaged with the normal access cover to prevent movement of the porthole cover to its second position when the access cover is in its first
30 position; and

the normal access cover allowing movement of the porthole cover to its second position when the normal access cover is in its second position.

5 2. The railway tank car of Claim 1, wherein the sidewall comprises a generally hollow, cylindrical portion and the protective housing assembly further comprises;

the cylindrical portion; and

10 a hinge assembly for rotatably coupling the normal access cover with the cylindrical portion.

3. The railway tank car of Claim 1, wherein the at least one valve comprises two or more valves disposed on
15 the manway cover, the valves being operable to discharge fluids from the tank car, and further comprising a respective porthole formed in the protective housing assembly for each of the two or more valves.

20 4. The railway tank car of Claim 1, wherein the porthole cover is rotatably secured to an exterior surface of the protective housing assembly, adjacent to the porthole.

25 5. The railway tank car of Claim 1, wherein the porthole cover is slideably disposed on an exterior surface of the protective housing assembly, adjacent to the porthole.

6. The railway tank car of Claim 1, wherein the porthole cover is slideably secured to an interior surface of the protective housing assembly, adjacent to the porthole.

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7. The railway tank car of Claim 1, wherein the at last one valve comprises a safety valve coupled to the manway cover and operable to discharge fluids from the tank car when fluid pressure within the tank car exceeds
10 a selected value, and further comprising:

a vent opening formed in the normal access cover to allow the fluids discharged from the safety valve to exit from the protective housing assembly; and

a restriction engaged with the vent opening in the
15 normal access cover to block access therethrough while still allowing fluids to exit from the protective housing assembly.

8. The railway tank car of Claim 7, wherein the
20 restriction further comprises a plurality of bars formed as integral components of the normal access cover and spaced from each other to allow fluid flow therebetween while blocking access through the vent opening in the normal access cover.

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9. The railway tank car of Claim 7, wherein the restriction further comprises a screen engaged with an interior surface of the normal access cover adjacent to the vent opening to allow fluid flow through the screen
30 while blocking access through the opening in the normal access cover.

10. The railway tank car of Claim 1, further comprising:

the porthole cover being rotatably secured with the protective housing assembly;

5 a slot formed in the normal access cover;

the slot sized to receive a portion of the porthole cover therein when the normal access cover is in its first, closed position; and

wherein engagement between the porthole cover and
10 the slot prevent rotation of the porthole cover when the normal access cover is in the first, closed position.

11. The railway tank car of Claim 1, wherein the at least one porthole comprises at least four portholes
15 formed in the sidewall of the protective housing assembly, each porthole having an associated porthole cover, each porthole cover having a first position which blocks access through one of the respective portholes to the valve, and a second position which allows access
20 through the respective porthole, and further comprising:

at least four slots formed in the normal access cover;

each slot sized to receive a respective portion of one of the porthole covers when the normal access cover
25 is in its first, closed position; and

wherein engagement between the porthole covers and the respective slots prevent rotation of the porthole covers from the first positions to the second positions when the normal access cover is in its first, closed
30 position.

12. A protective housing assembly for a tank, comprising;

5 a generally hollow, cylindrical wall portion sized to fit over a manway formed in an upper portion of a tank and at least one valve secured to an associated manway cover;

a normal access cover disposed on the cylindrical wall portion;

10 the normal access cover having a first, locked position which prevents unauthorized access to the manway cover and the valve;

the normal access cover having a second position which allows access to the manway cover and the valve;

15 at least one porthole formed in the cylindrical wall portion to allow access therethrough to the valve; and

a porthole cover engaged with the normal access cover to block access through the porthole when the normal access cover is in its first position, and to allow access through the porthole when the normal access
20 cover is in its second, open position.

13. A protective housing assembly, comprising:

a cylindrical sidewall configured to be coupled with a tank to generally surround at least one valve of the tank;

5 an access cover configured to be removably disposed over the cylindrical sidewall, a diameter of the access cover being larger than a diameter of the cylindrical sidewall, such that an outer portion of the access cover overhangs the cylindrical sidewall, when the access cover
10 is in a closed position;

a hinge assembly coupled to the cylindrical sidewall and the access cover, the hinge assembly configured to allow the access cover to be moved to an open position wherein an interior portion of the cylindrical sidewall
15 is exposed to a user;

the cylindrical sidewall having at least one porthole disposed therein;

a porthole cover having a first position in which the porthole cover covers the porthole, and a second
20 position in which the porthole is exposed; and

wherein the access cover prevents the porthole cover from being moved from the first position to the second position, when the access cover is in the closed position.

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14. The protective housing assembly of Claim 13, further comprising:

a pivot pin being disposed through the porthole cover and coupled to the cylindrical wall, the pivot pin
30 allowing rotation of the porthole cover from the first position to the second position.

15. The protective housing assembly of Claim 14,
wherein the porthole cover is disposed upon an exterior
surface of the cylindrical wall and wherein the outer
portion of the access cover cooperates with an upper edge
5 of the porthole cover to prevent the porthole cover from
being rotated from the first position to the second
position, when the access cover is in the closed
position.

10 16. The protective housing assembly of Claim 14,
wherein the access cover forms at least one slot in the
outer portion, and wherein an upper portion of the
porthole cover is disposed in the slot to prevent
rotation of the porthole cover from the first position to
15 the second position, when the access cover is in the
closed position.

17. The protective housing assembly of Claim 13,
further comprising an anti-bending lug being coupled with
20 the cylindrical wall, the anti-bending lug forming a slot
between the cylindrical wall and a leg of the anti-
bending lug, the slot being configured to allow the
porthole cover to slide therethrough, but prevent prying
of the porthole cover away from the cylindrical wall.

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18. The protective housing assembly of Claim 13,
wherein the porthole cover is disposed upon an interior
surface of the cylindrical wall.

19. The protective housing assembly of Claim 18, wherein the porthole cover includes a anti-pivot tail extending toward the access cover, and further comprising:

5 a pair of retainer lugs extending from the access cover, the retainer lugs forming a space configured to receive the anti-pivot tail, and prevent rotation of the porthole cover from the first position to the second position, when the access cover is in the closed
10 position.

20. A protective housing assembly, comprising:

a cylindrical sidewall configured to be coupled with a tank to generally surround at least one valve of the tank;

5 an access cover configured to be removably disposed over the cylindrical sidewall, when the access cover is in a closed position;

a hinge assembly coupled to the cylindrical sidewall and the access cover, the hinge assembly configured to
10 allow the access cover to be moved to an open position wherein an interior portion of the cylindrical sidewall is exposed to a user;

the cylindrical sidewall having at least one porthole disposed therein;

15 a porthole cover having a first position in which the porthole cover covers the porthole, and a second position in which the porthole is exposed;

the porthole cover including a lifting stop that extends toward the access cover, to limit vertical
20 movement of the porthole cover when the access cover is in the closed position;

a pair of retainer guides disposed upon an interior surface of the cylindrical sidewall, the retainer guides being configured to allow vertical movement of the
25 porthole cover; and

wherein the access cover prevents the porthole cover from being moved from the first position to the second position, when the access cover is in the closed position.

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21. The protective housing assembly of Claim 20,
further comprising a lifting tab extending inward from
the porthole cover and providing a surface for a user to
engage in order to lift the porthole cover from the first
5 position to the second position.